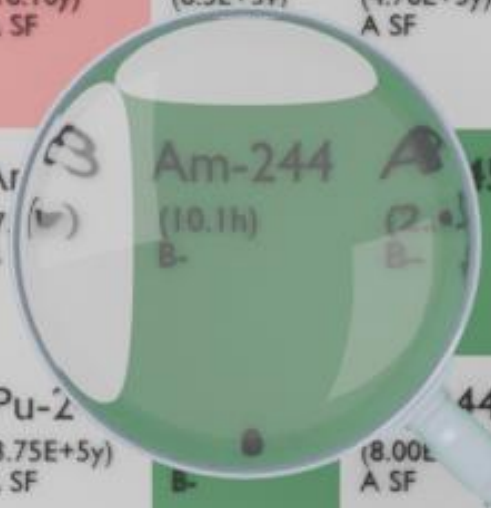




Cm-241 (32.8d) CA	Cm-242 (162.8d) A SF	Cm-243 (29.1y) A EC	Cm-244 (18.10y) A SF	Cm-245 (8.5E+3y) A SF	Cm-246 (4.76E+3y) A SF	Cm-247 (1.56E+7y) A	Cm-248 (3.48E+5y) A SF	Cm-249 (64.15m) B-
Am-240 (50.8h) CA	Am-241 (432.2y) A	Am-242 (16.02h) B-EC	Am-243 (7.37y) A	Am-244 (10.1h) B-	Am-245 (2.01y) B-	Am-246 (39m) B-	Am-247 (23.0m) B-	
Pu-239 (2411E+4y) A	Pu-240 (6564y) A SF	Pu-241 (14.35y) B-A	Pu-242 (3.75E+5y) A SF	Pu-243 (4.9h) B-	Pu-244 (8.00E+4y) A SF	Pu-245 (10.5h) B-	Pu-246 (10.84d) B-	

AMERICIUM-244

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Am-244
Atomic number (Z): 95
Mass number (A): 244
Neutron number (N): 149

RADIOACTIVE DECAY

Decay modes: β^-
Half-life: 10.1 [h]
Decay constant: $1.9063\text{e-}05$ [1/s]
Daughters: Cm-244 (100.0%)
Radioactive daughters: Cm-244

DOSIMETRIC CONSTANTS

Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.33295 [MeV]
Mean photon energy: 0.80522 [MeV]
Air kerma rate constant, Γ_{10} : $4.737\text{e-}17$ [$\text{Gy} \cdot \text{m}^2/\text{Bq} \cdot \text{s}$]
Air kerma coefficient, K_{air} : $4.737\text{e-}17$ [$\text{Gy} \cdot \text{m}^2/\text{Bq} \cdot \text{s}$]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : $5.334\text{e-}14$ [$\text{Gy} \cdot \text{kg}/\text{Bq} \cdot \text{s}$]
Equilibrium dose constant for alphas, Δ_{α} : $0.000\text{e+}00$ [$\text{Gy} \cdot \text{kg}/\text{Bq} \cdot \text{s}$]

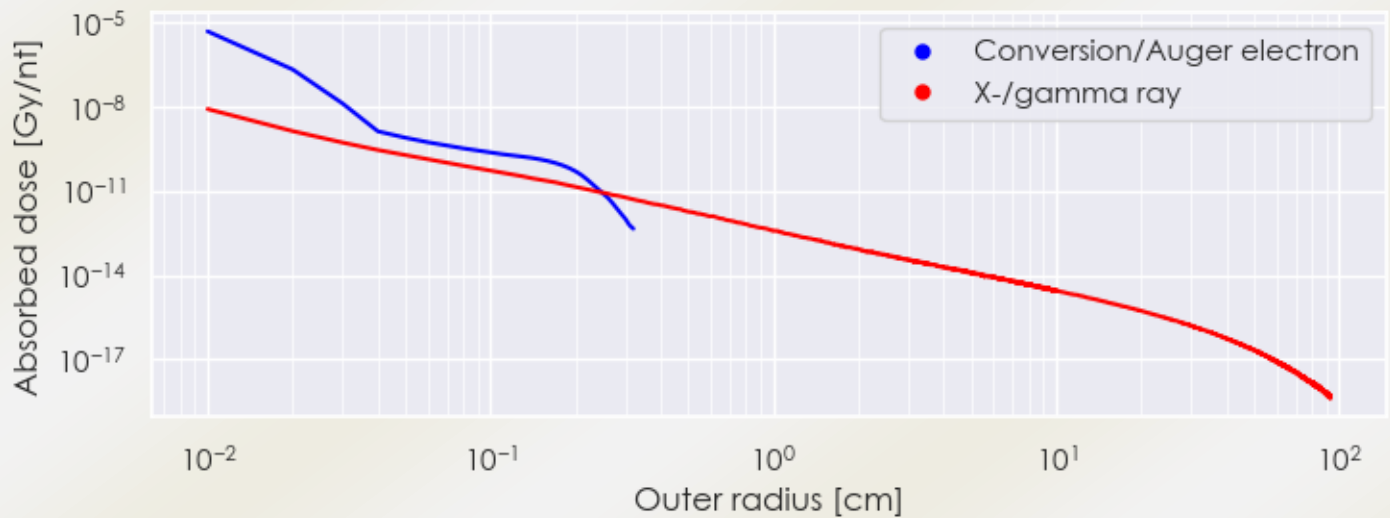
Equilibrium dose constant for betas/electrons, $\Delta_{\beta-, \beta+, e-}$: 5.334e-14 [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 1.290e-13 [Gy·kg/Bq·s]

DOSE POINT KERNELS (PLOT)

Dose point kernel source: **Graves, et al. Medical Physics. 2019 Nov.; 46(11):5284-5293.**

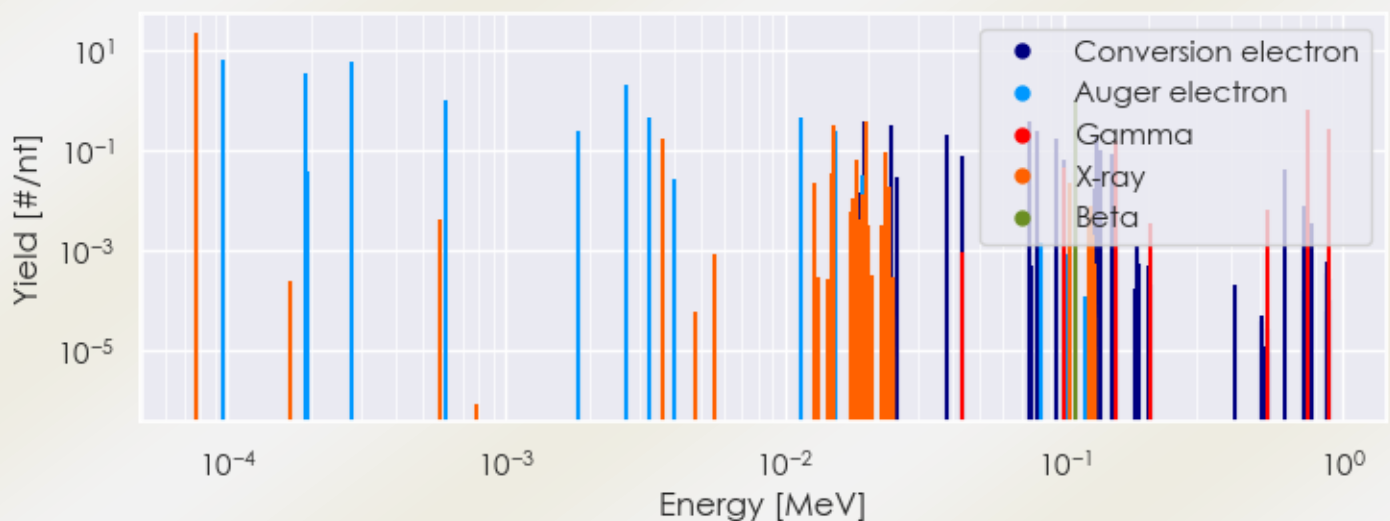
Note: Bins are spaced every 0.1 mm until a radius of 10 cm, and every 1 mm until a radius of 2 m.



Download tabulated dose point kernel file here: www.mirdsoft.org/products/MIRDspecs/Am-244 DPK.csv

SUMMARY SPECTRA (PLOT)

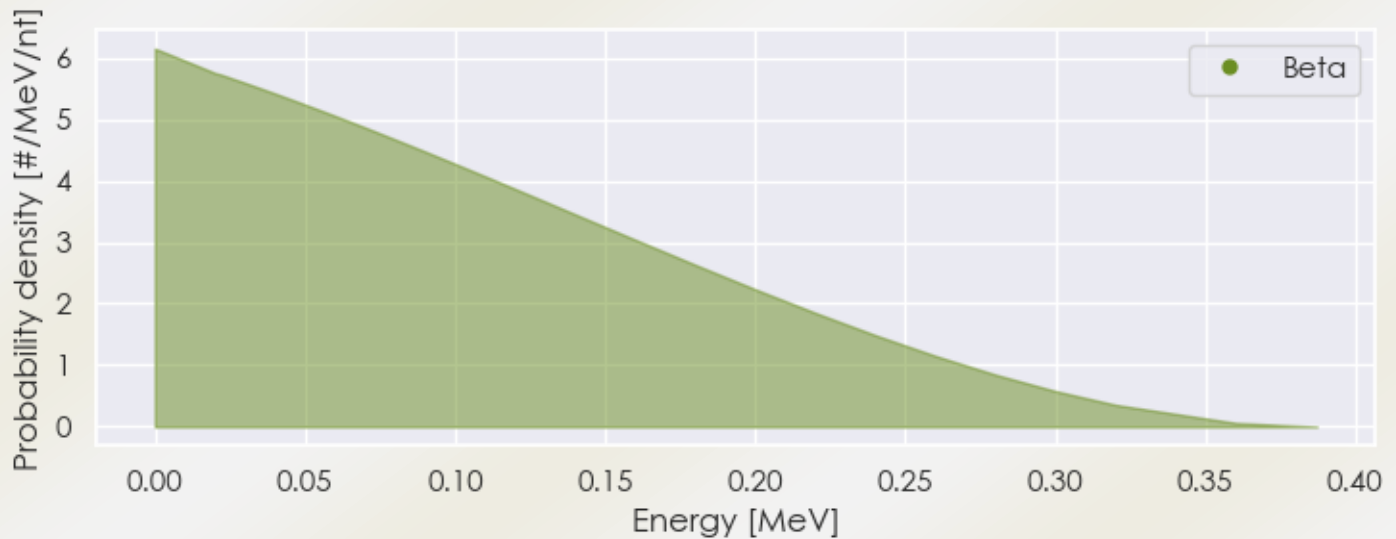
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Am-244 Summary Spectrum.csv

BETA SPECTRA (PLOT)

Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated beta spectra file here: www.mirdsoft.org/products/MIRDspecs/Am-244 Beta Spectrum.csv

TABULATED DATA

SUMMARY SPECTRA (TABLE)

Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**

Note: Radiations with yield < 0.01 are excluded from the table, but are available in the linked *.csv data.

Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Am-244 Summary Spectrum.csv

Energy [MeV]	Yield [# / nt] if > 0.01	Radiation type
7.76572e-05	2.385e+01	X-ray
3.66381e-03	1.683e-01	X-ray
1.26809e-02	2.319e-02	X-ray
1.47568e-02	3.574e-02	X-ray
1.49784e-02	3.137e-01	X-ray
1.74629e-02	1.116e-02	X-ray
1.81285e-02	6.767e-02	X-ray
1.88688e-02	1.366e-02	X-ray
1.95388e-02	3.887e-01	X-ray

2.28563e-02	9.131e-02	X-ray
2.36395e-02	1.895e-02	X-ray
9.93830e-02	4.600e-02	Gamma
1.05084e-01	2.225e-02	X-ray
1.09866e-01	3.482e-02	X-ray
1.53863e-01	1.640e-01	Gamma
7.43971e-01	6.600e-01	Gamma
8.97848e-01	2.800e-01	Gamma
1.09603e-01	1.000e+00	Beta
9.71097e-05	6.750e+00	Auger electron
1.90631e-04	3.619e+00	Auger electron
1.93199e-04	3.707e-02	Auger electron
2.80409e-04	6.257e+00	Auger electron
6.11615e-04	1.042e+00	Auger electron
1.82015e-03	2.452e-01	Auger electron
2.68128e-03	2.018e+00	Auger electron
3.27639e-03	4.472e-01	Auger electron
3.98677e-03	2.817e-02	Auger electron
1.14002e-02	4.854e-01	Auger electron
1.51829e-02	2.571e-01	Auger electron
1.84110e-02	1.477e-02	Conversion electron
1.90142e-02	3.201e-02	Auger electron
1.91890e-02	3.883e-01	Conversion electron
2.39710e-02	3.303e-01	Conversion electron
2.50030e-02	2.867e-02	Conversion electron
3.81360e-02	2.042e-01	Conversion electron
4.29650e-02	7.617e-02	Conversion electron
7.48290e-02	2.123e-02	Conversion electron
7.56070e-02	3.841e-01	Conversion electron
8.03890e-02	2.448e-01	Conversion electron
9.45540e-02	1.827e-01	Conversion electron
9.93830e-02	6.864e-02	Conversion electron
1.29309e-01	1.813e-02	Conversion electron
1.30087e-01	1.967e-01	Conversion electron
1.34869e-01	1.026e-01	Conversion electron
1.49034e-01	8.851e-02	Conversion electron
1.53863e-01	3.340e-02	Conversion electron
6.15111e-01	4.316e-02	Conversion electron

USEFUL LINKS

Isotope decay characteristics are periodically updated as better measurements can be made - changes that may not be reflected on this page. Please see useful links:

National Nuclear Data Center (NNDC): <https://www.nndc.bnl.gov/nudat3/mird/>

International Atomic Energy Agency (IAEA) Livechart: <https://www-nds.iaea.org/relnsd/vcharthtml/VChartHTML.html>

REFERENCE LINKS

ICRP Report 107: <https://www.icrp.org/publication.asp?id=ICRP%20Publication%20107>

Graves et al. Dose Point Kernels: <https://doi.org/10.1002/mp.13789>

MIRD Decay Schemes 2nd Edition: https://sites.snmmi.org/SNMML-MAIN/iCore/Store/StoreLayouts/Item_Detail.aspx?iProductCode=0-932004-80-6